ABSTRACT

The invention is directed to a model system for structure-activity relationship analysis of peptide or protein molecules involved in important biological processes. Provided by the invention are combinatorial peptide libraries comprising peptides with a novel "tryptophan zipper" scaffold (trpzip) that forms stable β-hairpin structure in solution. Methods of selecting and using such scaffold are provided herein, which are useful for mimicking native protein structures and interactions and designing therapeutic agents. Thus, the invention has profound utility for biological studies and drug development.

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